

Social Insurance

For the Fiscal Year Ended September 30, 2001

Medicare, the largest health insurance program in the country, has helped fund medical care for the nation's aged and disabled for more than three decades. A brief description of the provisions of Medicare's Hospital Insurance (HI) and Supplementary Medical Insurance (SMI) programs is included on page II.42.

The required supplementary stewardship information (RSSI) contained in the following sections is presented in accordance with the requirements of the Federal Accounting Standards Advisory Board (FASAB). Included are a description of the long-term sustainability and financial condition of the program and a discussion of trends revealed in the data.

RSSI material is generally drawn from the *2001 Annual Report of the Board of Trustees of the Federal Hospital Insurance Trust Fund* and the *2001 Annual Report of the Board of Trustees of the Federal Supplementary Medical Insurance Trust Fund*, which represent the official government evaluation of the financial and actuarial status of the Medicare trust funds. Unless otherwise noted, all data are for calendar years, and all projections are based on the Trustees' intermediate set of assumptions.

Printed copies of the Trustees Reports may be obtained from CMS' Office of the Actuary (410-786-6386). The reports are also available online at www.hcfa.gov/pubforms/tr/hi2001/toc.htm and www.hcfa.gov/pubforms/tr/smi2001/toc.htm.

Actuarial Projections

Cashflow in Nominal Dollars

Using nominal dollars¹ for short-term projections paints a reasonably clear picture of expected performance with particular attention on cashflow and trust fund balances. Over longer periods, however, the changing value of the dollar can complicate efforts to compare dollar amounts in different periods and can create severe barriers to interpretation, since projections must be linked to something that the mind can comprehend in today's experience.

¹ Dollar amounts that are not adjusted for inflation or other factors are referred to as "nominal."



The projected year of depletion of the trust fund is very sensitive to assumed future economic and other trends. Under less favorable conditions the cash flow could turn negative much earlier and thereby accelerate asset exhaustion.

For this reason, long-range (75-year) Medicare projections in nominal dollars are seldom used and are not presented here. Instead, nominal-dollar estimates for the HI trust fund are displayed only through the projected date of depletion, currently the year 2029. Estimates for the SMI program are presented only for the next 10 years, primarily due to the fact that under present law, the SMI trust fund is in automatic financial balance every year.

HI

Chart 1 shows the actuarial estimates of HI income, disbursements, and assets for each of the next 30 years, in nominal dollars. Income includes payroll taxes, income from the taxation of Social Security benefits, interest earned on the U.S. Treasury securities held by the trust fund, and other miscellaneous revenue. Disbursements include benefit payments and administrative expenses. The estimates are for the “open group”

population—all persons who will participate in the program during the period as either taxpayers or beneficiaries, or both—and consist of payments from, and on behalf of, employees now in the workforce, as well as those who will enter the workforce over the next 30 years. The estimates also include expenditures attributable to these current and future workers, in addition to current beneficiaries.

As Chart 1 shows, under the intermediate assumptions HI expenditures would begin to exceed income including interest in 2021 and income excluding interest in 2016. This situation is in part due to the retirement, starting in 2010, of those born during the 1946-1965 baby boom. It also arises as a result of health cost increases that are expected

to continue to grow faster than workers’ earnings. Beginning in 2021, the trust fund would start redeeming trust fund assets; in 2029, the assets would be depleted.

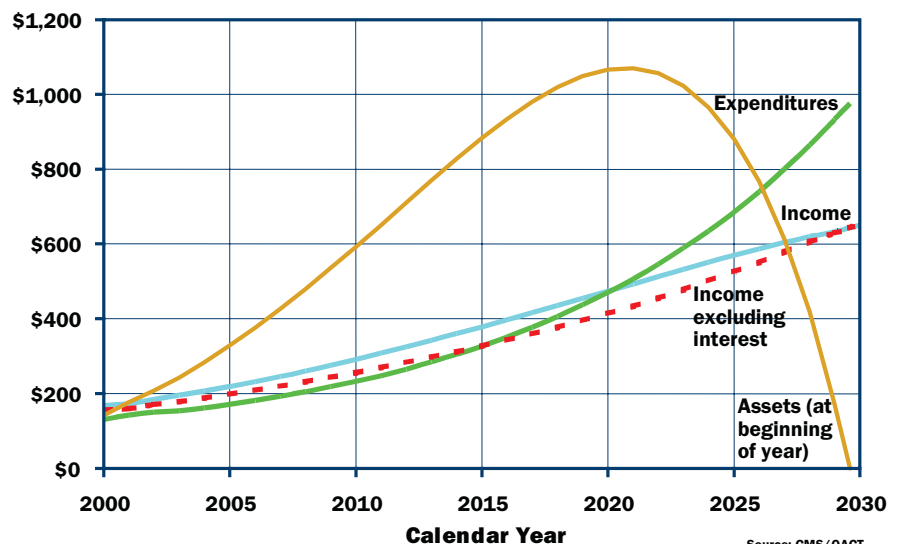
The projected year of depletion of the trust fund is very sensitive to assumed future economic and other trends. Under less favorable conditions the cash flow could turn negative much earlier and thereby accelerate asset exhaustion.

SMI

Chart 2 shows the actuarial estimates of SMI income, disbursements, and assets for each of the next 10 years, in nominal dollars. Whereas HI estimates are displayed through the year 2030, SMI estimates cover

Please note that the 2001 Trustees Reports for HI and SMI (issued March 19, 2001) were used as source documents for this FY 2001 report. As this report goes to print, we anticipate that the Government-wide financial statement report for FY 2001 (expected to be issued March 31, 2002) will contain updated information from the 2002 Trustees Reports (which are expected to be issued on or near March 15, 2002). Thus, some data related to the Medicare trust funds contained in this FY 2001 report may differ from that contained in the FY 2001 Financial Report of the United States Government.

**Chart 1 - HI Income, Expenditures, and Assets
2000 - 2030
(in billions)**



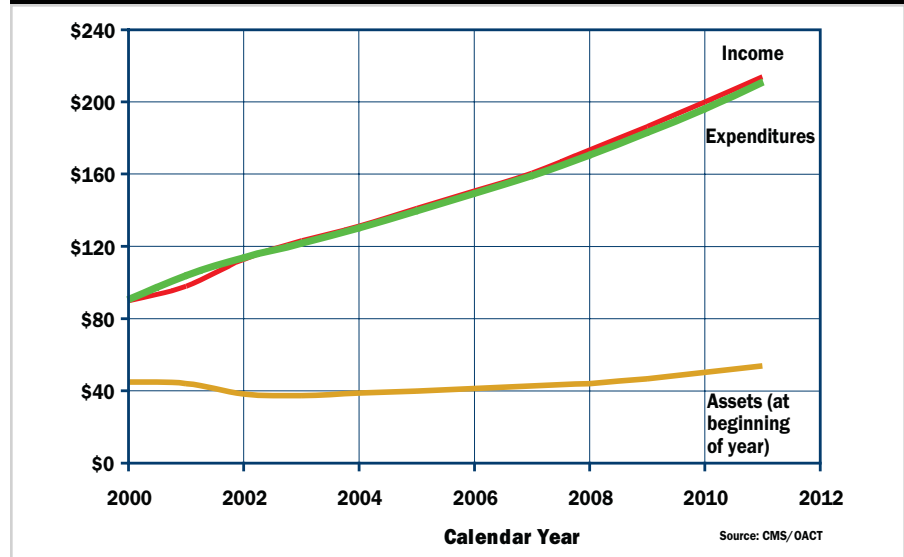
The existence of large trust fund balances, therefore, represents an important obligation for the Government to pay future Medicare benefits but does not necessarily make it easier for the Government to pay those benefits.

only the next 10 years, as the SMI program differs fundamentally from the HI program in regard to the way it is financed. In particular, SMI financing is not at all based on payroll taxes but instead on monthly premiums and income from the general fund of the U.S. Treasury—both of which are established annually to cover the following year's expenditures. Estimates of SMI income and expenditures, therefore, are virtually the same, as illustrated in Chart 2, and so are not shown separately beyond 10 years.

Income includes monthly premiums paid by, or on behalf of, beneficiaries, transfers from the general fund of the U.S. Treasury, and interest earned on the U.S. Treasury securities held by the trust fund.² Chart 2 displays only total income; it does not represent income excluding interest. The difference between the two is not visible graphically since interest is not a significant source of income.³ Disbursements include benefit payments as well as administrative expenses.

As Chart 2 indicates, SMI income is very close to expenditures. As noted earlier, this is due to the financing mechanism of the SMI program. Consequently, under present law, the SMI program is automatically in financial balance every year, regardless of future economic and other conditions.

**Chart 2 - SMI Income, Expenditures and Assets
2000 - 2011
(in billions)**



By law, Medicare trust fund assets are invested in special U.S. Treasury Securities, which earn interest while Treasury uses those cash resources for other Federal purposes. During times of Federal "on-budget" surpluses, such as fiscal year 2000, this process reduces the Federal debt held by the public. In times of Federal budget deficits, Medicare surpluses reduce the amount that must be borrowed from the public to finance those deficits. The trust fund assets are claims on the Treasury that, when redeemed, will have to be financed by raising taxes, borrowing from the public, or reducing other Federal expenditures. (When financed by borrowing, the effect is to defer today's costs to later generations who will ultimately repay the funds being borrowed for today's Medicare beneficiaries.) The existence of large trust fund balances, therefore, represents an important obligation for the Government to pay future Medicare benefits but does not necessarily make it easier for the Government to pay those benefits.

² In this financial statement for the Centers for Medicare & Medicaid Services, Medicare income and expenditures are shown from a "trust fund perspective." All sources of income to the trust funds are reflected, and the actuarial projections can be used to assess the financial status of each trust fund. Corresponding estimates for Medicare and other Federal social insurance programs are also shown in the annual *Financial Report of the United States Government*, also known as the consolidated financial statement. On a consolidated basis, the estimates are shown from a "Federal budget" perspective. In particular, certain categories of trust fund income—primarily interest payments and SMI general revenues—are excluded because they represent intragovernmental transfers, rather than revenues received from the public. Thus, the consolidated financial statement focuses on the overall balance between revenues and outlays for the Federal budget, rather than on the financial status of individual trust funds. Each perspective is appropriate and useful for its intended purpose.

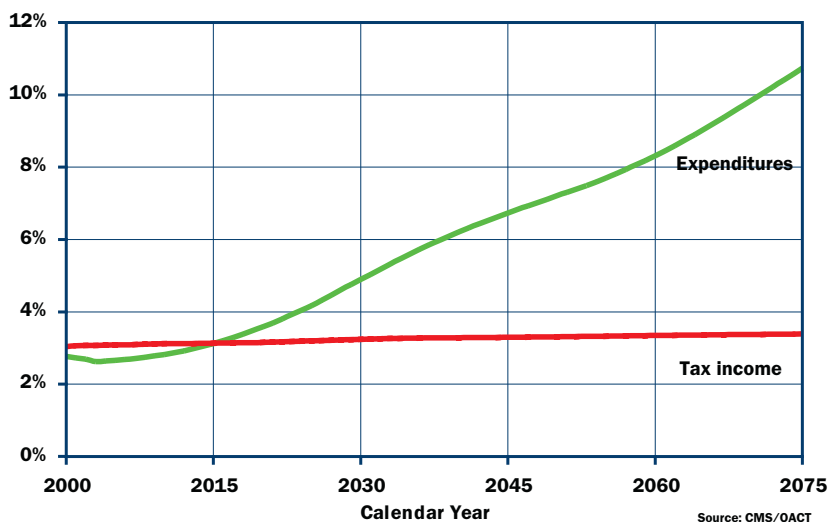
³ Interest income is generally about 4 percent of total SMI income.

HI Cashflow as a Percent of Taxable Payroll

Each year, estimates of the financial and actuarial status of the HI program are prepared for the next 75 years. Because of the difficulty in comparing dollar values for different periods without some type of relative scale, income and expenditure amounts are shown relative to the earnings in covered employment that are taxable under the HI program (referred to as “taxable payroll”).

Chart 3 illustrates income excluding interest and expenditures as a percent of taxable payroll over the next 75 years. In the 2001 Trustees Reports, the long-range cost growth assumptions underlying these financial projections have been revised upward. This change was based on the recommendation of the 2000 Medicare Technical Review Panel, an independent, expert group of actuaries and economists convened by the Trustees to review the Medicare projections. In prior Trustees Reports, per beneficiary HI expenditures were assumed to increase at the same rate as average hourly earnings in the economy. Beginning with the projections shown in the 2001 report, the long-range growth assumption is increased to the level of per capita GDP growth plus 1 percentage point—which is approximately 1 percentage point per year faster than the prior assumption. As a result, after 2030 the HI expenditures as a percent of taxable payroll are projected to be substantially greater than those shown in the 2000 report.

Chart 3 - HI Income Excluding Interest and Expenditures as a Percentage of Taxable Payroll 2000 - 2075



Since HI payroll tax rates are not scheduled to change in the future under present law, payroll tax income as a percentage of taxable payroll will remain constant at 2.90 percent. Income from taxation of benefits will increase only gradually as a greater proportion of Social Security beneficiaries become subject to such taxation over time. Thus, as Chart 3 shows, the income rate is not expected to increase significantly over current levels. On the other hand, expenditures as a percent of taxable payroll sharply escalate—in part due to healthcare cost increases that exceed wage growth, but also due to the retirement of those born during the 1946-1965 baby boom.

HI and SMI Cashflow as a Percent of GDP

Expressing Medicare incurred disbursements as a percentage of the gross domestic product

(GDP) gives a relative measure of the size of the Medicare program compared to the general economy. The GDP represents the total value of goods and services produced in the United States. This measure provides an idea of the relative financial resources that will be necessary to pay for Medicare services.

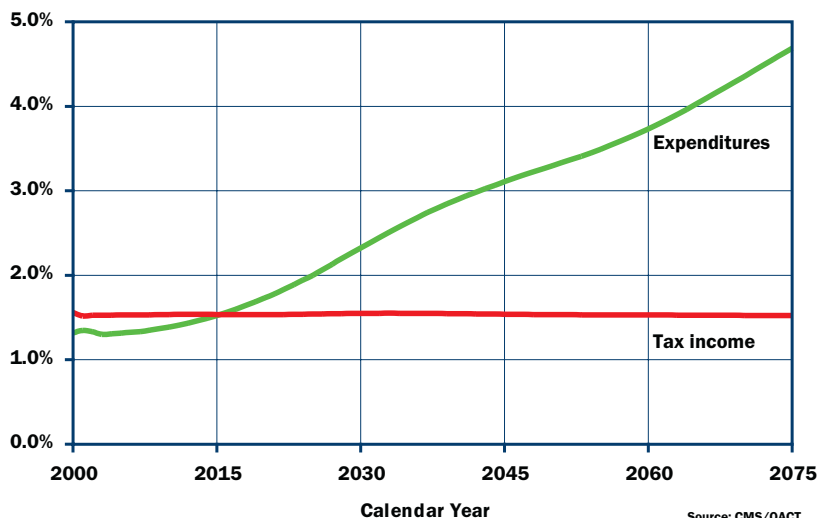
HI

Chart 4 shows income excluding interest and expenditures for the HI program over the next 75 years expressed as a percentage of GDP. In 2000, the expenditures were \$131.1 billion, which was 1.32 percent of GDP. This percentage is projected to increase steadily throughout the entire 75-year period.

SMI

As noted earlier, because of the SMI financing mechanism in which income mirrors expen-

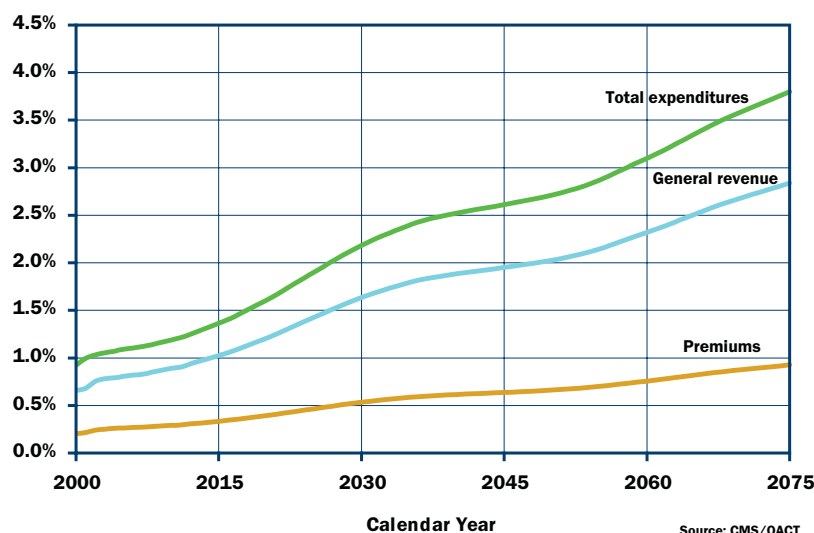
**Chart 4 - HI Income Excluding Interest and Expenditures as a Percent of GDP
2000 - 2075**



ditures, it is not necessary to test for imbalances between income and expenditures. Rather, it is more important to examine the projected rise in expenditures and the implications for beneficiary premiums and Federal general revenue payments.

Chart 5 shows expenditures for the SMI program over the next 75 years expressed as a percentage of GDP. In 2000, SMI expenditures were \$90.7 billion, which was 0.92 percent of GDP. This percentage is projected to increase steadily, reflecting growth in the volume and intensity of services provided per beneficiary throughout the projection period, together with the effects of the baby boom retirement.

**Chart 5 - SMI Expenditures as a Percent of GDP
2000 - 2075**



The SMI expenditure projections, like those for HI, reflect the 2000 Medicare Technical Review Panel's recommended change to the assumed long-range growth rates. In past Trustees Reports, growth in SMI per beneficiary expenditures was assumed to gradually slow and to reach the level of per capita GDP growth after about 25 years. In this report, the long-range growth rate assumption is set equal to per capita GDP growth plus 1 percentage point. Expenditure growth for years 13 to 25 is assumed to decline gradually and to grade smoothly into the long-range assumptions.

Also shown in Chart 5 are the proportions of total costs that will be met through beneficiary premiums and general revenues under present law.⁴ As indicated, premiums will cover roughly 25 percent of total expendi-

⁴ See footnote 2 regarding the treatment of SMI general revenue income on page II.43.

tures. Both sources of revenue would increase more rapidly than the GDP over time, to match the faster growth rates for SMI expenditures.

Worker-to-Beneficiary Ratio

HI

Another way to evaluate the long-range outlook of the HI program is to examine the projected number of workers per HI beneficiary. Chart 6 illustrates this ratio over the next 75 years. For the most part, current benefits are paid for by current workers. The retirement of the baby boom generation will therefore be financed by the relatively smaller number of persons born after the baby boom. In 2000, every beneficiary had 4.0 workers to pay for his or her benefit. In 2030, however, after the last baby boomer turns 65, there will be only about 2.3 workers per beneficiary. The projected ratio continues to decline until there are just 2.0 workers per beneficiary in 2075.

Actuarial Present Values

Projected future expenditures can be summarized by computing an “actuarial present value.” This value represents the lump-sum amount that, if invested today in trust fund securities, would be just sufficient to pay each year’s expenditures over the next 75 years, with the fund being drawn down to zero at the end of the period. Similarly, future revenues (excluding interest) can be summarized as a single, equivalent amount as of the current year.

Actuarial present values are calculated by discounting the future annual amounts of non-interest income and expenditures at the assumed rates of interest credited to the HI and SMI trust funds.

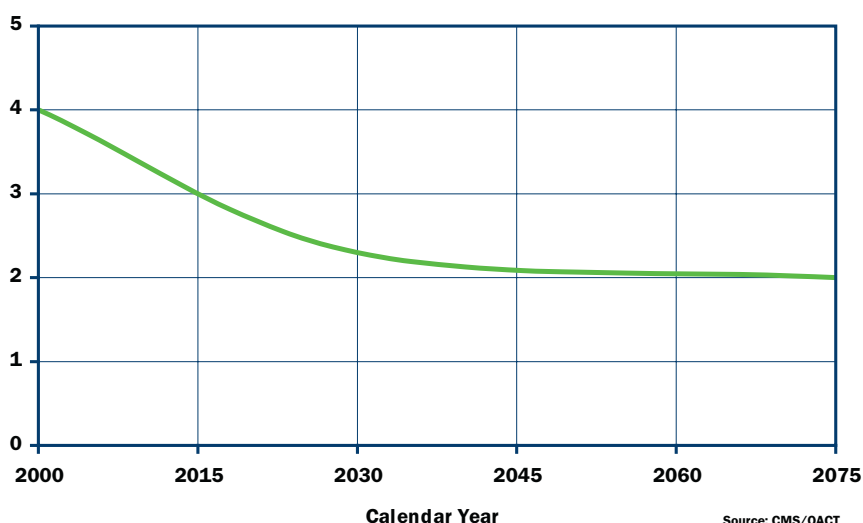
Present values are computed as of the beginning of the 75-year projection period for three different groups of participants: current workers and other individuals who have not yet attained retirement age; current beneficiaries who have attained retirement age; and new entrants, or those who are expected to become participants in the future.

Table 1 sets forth, for each of these three groups, the actuarial present values of all future HI and SMI expenditures and all future non-interest income for the next 75 years. Also shown is the net present value of cash-

flow, which is calculated by subtracting the actuarial present value of future expenditures from the actuarial present value of future income.

The long-range cost projections for 2001 are much higher than projected in the 2000 financial report because of the revision to the long-range Medicare expenditure growth rate assumptions. As mentioned previously, this change was recommended by the 2000 Medicare Technical Review Panel. Reflecting an expectation that the impact of advances in medical technology on healthcare costs will continue—both in Medicare and in the health sector as a whole—per beneficiary HI and SMI expenditures are now assumed to increase in the long range at the rate of per capita GDP growth plus 1 percentage point.

**Chart 6 - Number of Covered Workers per HI Beneficiary
2000 - 2075**



The existence of a large actuarial deficit for the HI trust fund indicates that, under reasonable assumptions as to economic, demographic, and health cost trends for the future, HI income is expected to fall substantially short of expenditures in the long range.

As shown in Table 1, the HI program has an actuarial deficit of more than \$4.5 trillion over the 75-year projection period, as compared to more than \$2.5 trillion in the 2000 financial report. As noted previously, this higher long-range cost projection is the result of a revision to the long-range Medicare expenditure growth rate

assumptions. SMI, on the other hand, does not have similar problems because it is in automatic financial balance every year due to its financing mechanism.

The existence of a large actuarial deficit for the HI trust fund indicates that, under reasonable assumptions as to economic, demographic, and

health cost trends for the future, HI income is expected to fall substantially short of expenditures in the long range. Although the deficits are not anticipated in the immediate future, as indicated by the preceding cashflow projections, they nonetheless pose a serious financial problem for the HI program.

Table 1 - Actuarial Present Values of Hospital Insurance and Supplementary Medical Insurance Revenues and Expenditures: 75-year Projection as of January 1, 2001 (in billions)

	HI		SMI ²	
	2001	2000	2001	2000
<i>Actuarial present value¹ of estimated future income (excluding interest) received from or on behalf of:</i>				
Current participants ³ who, at the start of projection period:				
Have not yet attained eligibility age (ages 15-64)	\$4,136	\$3,757	\$7,378	\$6,109
Have attained eligibility age (age 65 and over)	113	97	1,032	934
Those expected to become participants (under age 15)	3,507	3,179	2,370	1,616
All current and future participants	\$7,757	\$7,033	\$10,780	\$8,659
<i>Actuarial present value¹ of estimated future expenditures⁴ paid to or on behalf of:</i>				
Current participants ³ who, at the start of projection period:				
Have not yet attained eligibility age (ages 15-64)	\$8,568	\$6,702	\$7,415	\$6,094
Have attained eligibility age (age 65 and over)	1,693	1,681	1,159	1,051
Those expected to become participants (under age 15)	2,225	1,349	2,206	1,514
All current and future participants	\$12,487	\$9,732	\$10,780	\$8,659
<i>Actuarial present value¹ of estimated future income (excluding interest) less expenditures</i>	(\$4,730)	(\$2,700)	\$0	\$0
Trust fund assets at start of period	177	141	44	45
<i>Assets at start of period plus actuarial present value¹ of estimated future income (excluding interest) less expenditures</i>	(\$4,553)	(\$2,558)	\$44	\$45

¹ Present values are computed on the basis of the intermediate set of economic and demographic assumptions specified in the Report of the Board of Trustees for the year shown and over the 75-year projection period beginning January 1 of that year.

² SMI income includes premiums paid by beneficiaries and general revenue contributions made on behalf of the beneficiaries. See footnote 2 on page II.43 concerning treatment of SMI general revenues in the consolidated financial statement of the U.S. government.

³ Current participants are the "closed group" of individuals age 15 and over at the start of the period. The projection period for these current participants would theoretically cover all of their working and retirement years, a period that could be greater than 75 years in some instances. As a practical matter, the present values of future income and expenditures from/for current participants beyond 75 years are not material. The projection period for new entrants covers the next 75 years.

⁴ Expenditures include benefit payments and administrative expenses.

Note: Totals do not necessarily equal the sums of rounded components.

It is important to note that no liability has been recognized on the balance sheet for future payments to be made to current and future program participants beyond the existing unpaid Medicare claim amounts as of September 30, 2001. This is because Medicare is accounted for as a social insurance program rather than a pension program. Accounting for a social insurance program recognizes the expense of benefits when they are actually paid, or are due to be paid, because benefit payments are primarily nonexchange transactions and, unlike employer-sponsored pension benefits for employees, are not considered deferred compensation. Accrual accounting for a pension program, by contrast, recognizes retirement benefit expenses as they are earned so that the full actuarial present value of the worker's expected retirement benefits has been recognized by the time the worker retires.

Actuarial Assumptions and Sensitivity Analysis

In order to make projections regarding the future financial status of the HI and SMI programs, various assumptions have to be made. First and foremost, the estimates presented here are based on the assumption that the programs will continue under present law. In addition, the estimates depend on

many economic and demographic assumptions, including changes in wages and the consumer price index (CPI), fertility rates, immigration rates, and interest rates. In most cases, these assumptions vary from year to year during the first 5 to 30 years before reaching their ultimate values for the remainder of the 75-year projection period.

Table 2 shows some of the underlying assumptions used in the projections of Medicare spending displayed in this report. Further details on these assumptions are available in the OASDI, HI, and SMI Trustees Reports for 2001. In practice, a number of specific assumptions are made for each of the different types of service provided by the Medicare program (for example, hospital care, physician

services, etc.). These assumptions include changes in the utilization, volume, and intensity of each of these types of service. The per beneficiary cost increases displayed in Table 2 reflect the overall impact of these more detailed assumptions.

Estimates made in prior years have sometimes changed substantially because of revisions to the assumptions, which are due either to changed conditions or to more recent experience. Furthermore, it is important to recognize that actual conditions are very likely to differ from the projections presented here, since the future cannot be anticipated with certainty. In order to illustrate the magnitude of the sensitivity of the long-range projections, six of the key assumptions were varied indi-

Table 2 - Medicare Assumptions

	Fertility rate ¹	Net immigration	Real wage differential ²	Annual percentage change in:					
				Wages	CPI	Real GDP	Per beneficiary cost ³		Real interest rate ⁴
							HI	SMI	
2001	2.05	900,000	1.9	4.9	3.0	3.1	6.7	12.7	2.6
2005	2.04	900,000	1.2	4.4	3.2	2.3	4.4	6.2	2.9
2010	2.02	900,000	1.0	4.3	3.3	2.0	4.5	5.4	3.0
2020	1.97	900,000	1.0	4.3	3.3	1.7	4.6	5.3	3.0
2030	1.95	900,000	1.0	4.3	3.3	1.7	6.1	5.7	3.0
2040	1.95	900,000	1.0	4.3	3.3	1.7	6.4	5.5	3.0
2050	1.95	900,000	1.0	4.3	3.3	1.6	5.4	5.1	3.0
2060	1.95	900,000	1.0	4.3	3.3	1.6	5.5	5.6	3.0
2070	1.95	900,000	1.0	4.3	3.3	1.6	5.8	5.4	3.0
2075	1.95	900,000	1.0	4.3	3.3	1.6	5.7	5.3	3.0

¹Average number of children per woman.

²Difference between percentage increases in wages and the CPI.

³See text for nature of this assumption.

⁴Average rate of interest earned on new trust fund securities, above and beyond rate of inflation.

It is important to recognize that actual conditions are very likely to differ from the projections presented here, since the future cannot be anticipated with certainty.

vidually to determine the impact on the HI actuarial present values and net cashflows.⁵ The assumptions varied are the fertility rate, net immigration, real-wage differential, CPI, real-interest rate, and health-care cost factors.⁶

For this analysis, the intermediate economic and demographic assumptions in the *2001 Annual Report of the Board of Trustees of the Federal Hospital Insurance Trust Fund* are used as the reference point. Each selected assumption is varied individually to produce three scenarios. All present values are calculated as of January 1, 2001 and are based on estimates of income and expenditures during the 75-year projection period.

Charts 7 through 12 show the net annual HI cashflow in nominal dollars and the present value of this net cashflow for each assumption varied. In most instances, the charts depicting the estimated net cashflow indicate that, after increasing in

the early years, net cashflow decreases steadily through 2030 under all three scenarios displayed. On the present value charts, the same pattern is evident, though the magnitudes are lower because of the discounting process used for computing present values.

Fertility Rate

Table 3 shows the net present value of cashflow during the 75-year projection period under three alternative ultimate fertility rate assumptions: 1.7, 1.95, and 2.2 children per woman.

Table 3 demonstrates that if the assumed ultimate fertility rate is decreased from 1.95 to 1.7, the projected deficit of income over expenditures increases from \$4,730 to \$4,878 billion. On the other hand, if the ultimate fertility rate is increased from 1.95 to 2.2 children per woman, the deficit decreases to \$4,569 billion.

Table 3 - Present Value of Estimated HI Income Less Expenditures under Various Fertility Rate Assumptions

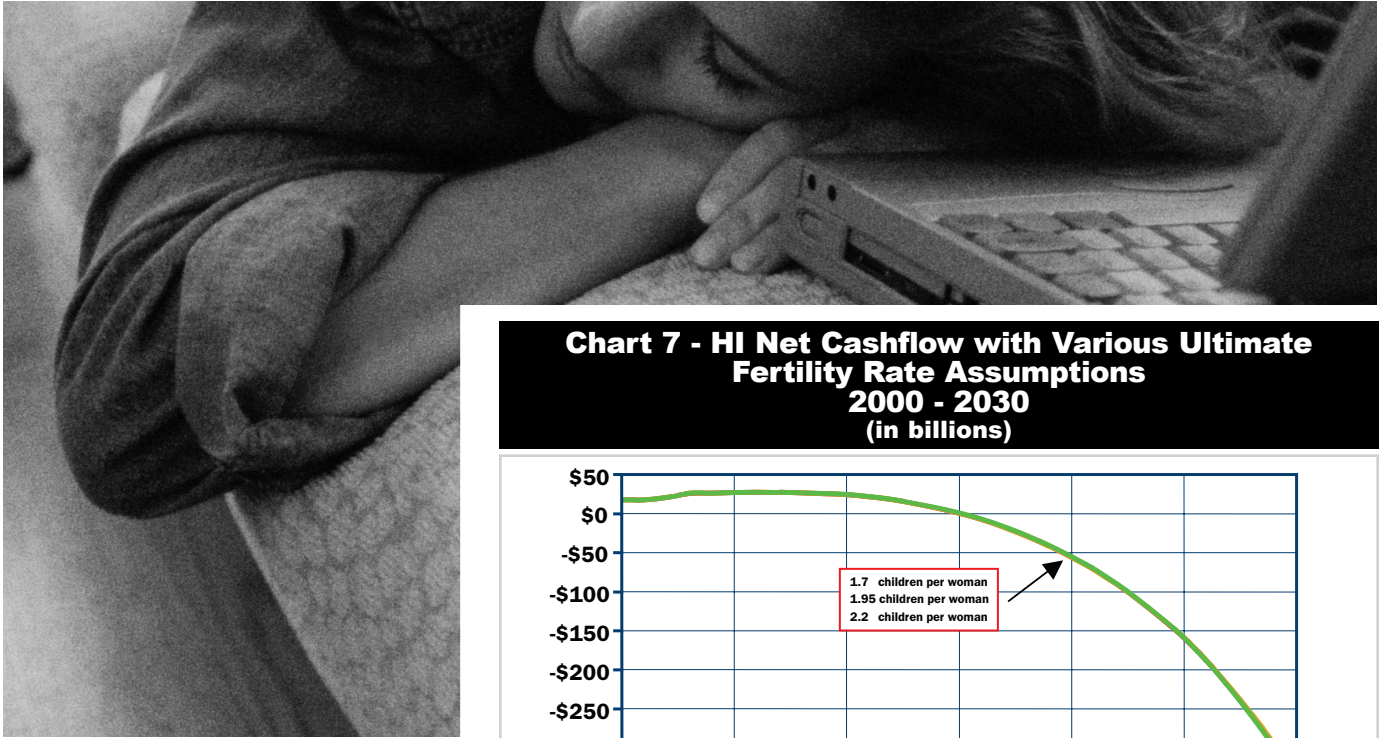
Ultimate fertility rate ¹	1.7	1.95	2.2
Income minus expenditures (in billions)	(\$4,878)	(\$4,730)	(\$4,569)

¹The total fertility rate for any year is the average number of children who would be born to a woman in her lifetime if she were to experience the birth rates by age observed in, or assumed for, the selected year and if she were to survive the entire childbearing period.

⁵Sensitivity analysis is not done for the SMI program due to its financing mechanism. Any change in assumptions would have no impact on the net cashflow, since the change would affect income and expenditures equally.

⁶The sensitivity of the projected HI net cash flow to variations in future mortality rates is also of interest. At this time, however, relatively little is known about the relationship between improvements in life expectancy and the associated changes in health status and per beneficiary health expenditures. As a result, it is not possible at present to prepare meaningful estimates of the HI mortality sensitivity. The Centers for Medicare & Medicaid Services is sponsoring a current research effort by the Rand Corporation that is expected to provide the information necessary to produce such estimates.

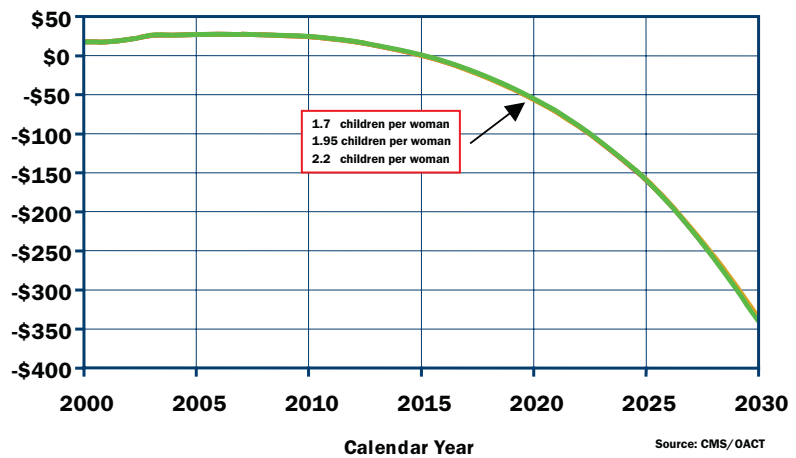




Charts 7 and 7A show projections of the net cashflow under the three alternative fertility rate assumptions presented in Table 3.

As Charts 7 and 7A indicate, the fertility rate assumption has only a negligible impact on projected HI cashflows over the next 30 years. This is because higher fertility in the first year does not affect the labor force until roughly 20 years have passed (increasing HI payroll taxes slightly) and has virtually no impact on the number of beneficiaries within this period. Over the full 75-year period, the changes are somewhat greater, as illustrated by the present values in Table 3.

**Chart 7 - HI Net Cashflow with Various Ultimate Fertility Rate Assumptions
2000 - 2030
(in billions)**



**Chart 7A - Present Value of HI Net Cashflow with Various Ultimate Fertility Rate Assumptions
2000 - 2030
(in billions)**

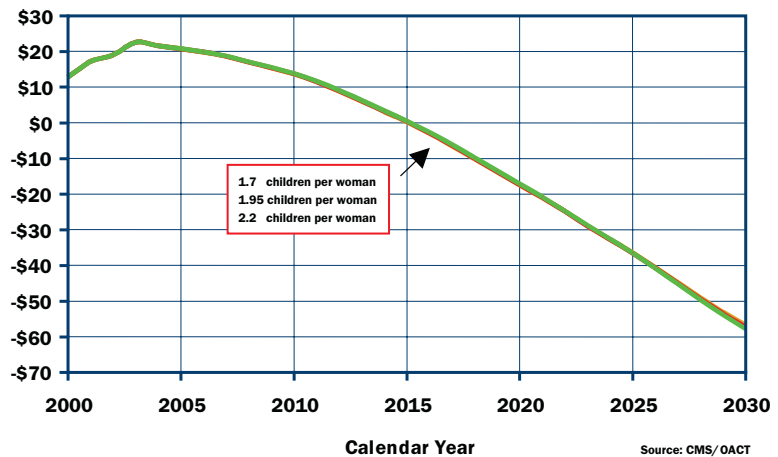
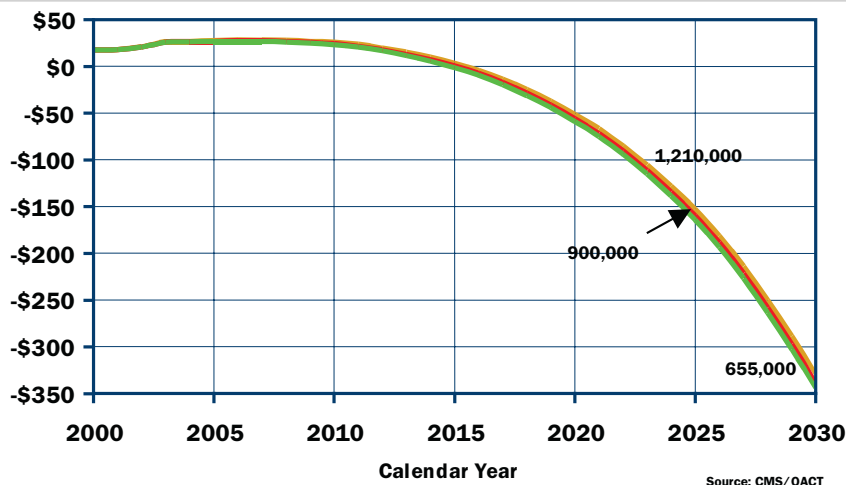


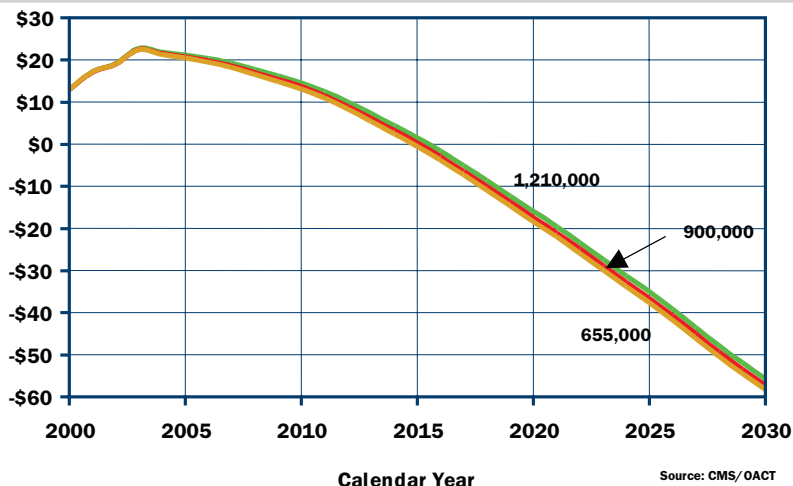
Table 4 - Present Value of Estimated HI Income Less Expenditures under Various Net Immigration Assumptions

Ultimate net immigration	655,000	900,000	1,210,000
Income minus expenditures (in billions)	(\$4,679)	(\$4,730)	(\$4,775)

**Chart 8 - HI Net Cashflow with Various Net Immigration Assumptions
2000 - 2030
(in billions)**



**Chart 8A - Present Value of HI Net Cashflow with Various Net Immigration Assumptions
2000 - 2030
(in billions)**



Net Immigration

Table 4 shows the net present value of cashflow during the 75-year projection period under three alternative net immigration assumptions: 655,000 persons, 900,000 persons, and 1,210,000 persons per year.

Table 4 demonstrates that if the ultimate net immigration assumption is decreased from 900,000 to 655,000 persons, the deficit of income over expenditures decreases from \$4,730 to \$4,679 billion. On the other hand, if the ultimate net immigration assumption is increased from 900,000 to 1,210,000 persons, the deficit increases to \$4,775 billion.

Charts 8 and 8A show projections of the net cashflow under the three alternative net immigration assumptions presented in Table 4.

As Charts 8 and 8A indicate, this assumption has an impact on projected HI cashflow starting almost immediately. Because immigration tends to occur among younger individuals, the number of covered workers is affected immediately, while the number of beneficiaries is affected much less quickly. Nonetheless, variations in net immigration result in fairly small differences in cashflow.

Because immigration tends to occur among younger individuals, the number of covered workers is affected immediately, while the number of beneficiaries is affected much less quickly. Nonetheless, variations in net immigration result in fairly small differences in cashflow.

Real-Wage Differential

Table 5 shows the net present value of cashflow during the 75-year projection period under three alternative ultimate real-wage differential assumptions: 0.5, 1.0, and 1.5 percentage points. In each case, the CPI is assumed to be 3.3 percent, yielding ultimate percentage increases in average annual wages in covered employment of 3.8, 4.3, and 4.8 percent, respectively.

Table 5 demonstrates that if the ultimate real-wage differential assumption is decreased from 1.0 percentage point to 0.5 percentage point, the deficit of income over expenditures increases from \$4,730 to \$4,988 billion. On the other hand, if the ultimate real-wage differential assumption is increased from 1.0 percentage point to 1.5 percentage points, the deficit decreases to \$4,539 billion.

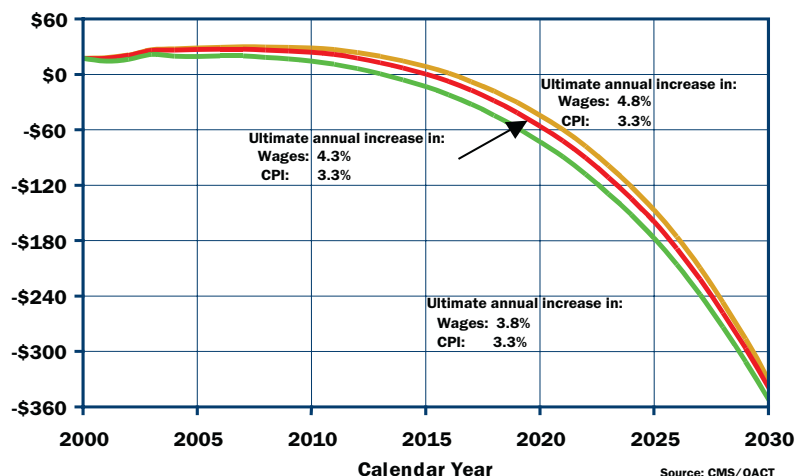
Charts 9 and 9A show projections of the net cashflow under the three alternative real-wage differential assumptions presented in Table 5.

As Charts 9 and 9A indicate, this assumption has a fairly large impact on projected HI cashflow very early in the projection period. Higher real-wage differential assumptions immediately increase both HI expenditures for healthcare and wages for all workers. Though there is a full effect on wages and payroll taxes, the effect on benefits is only partial, since not all healthcare costs are wage-related.

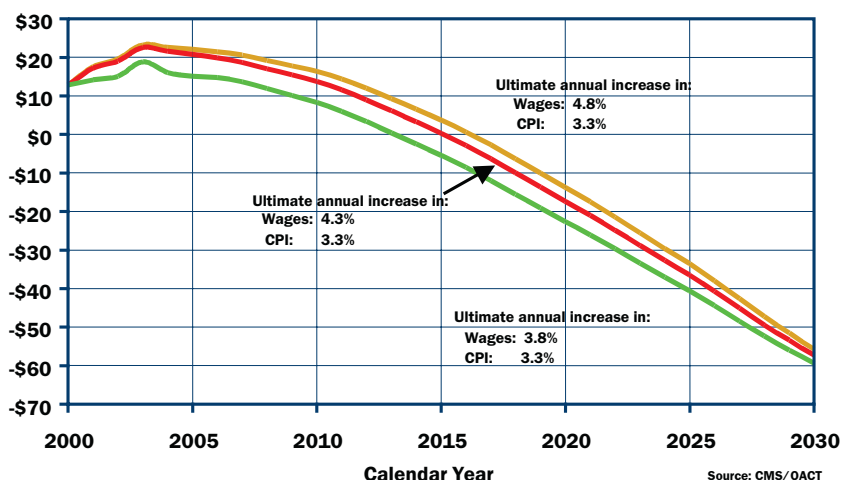
Table 5 - Present Value of Estimated HI Income Less Expenditures under Various Real-Wage Assumptions

Ultimate percentage increase in wages - CPI	3.8 - 3.3%	4.3 - 3.3%	4.8 - 3.3%
Ultimate percentage increase in real-wage differential	0.5	1.0	1.5
Income minus expenditures (in billions)	(\$4,988)	(\$4,730)	(\$4,539)

**Chart 9 - HI Net Cashflow with Various Real-Wage Assumptions
2000 - 2030
(in billions)**



**Chart 9A - Present Value of HI Net Cashflow with Various Real-Wage Assumptions
2000 - 2030
(in billions)**



Though there is a full effect on wages and payroll taxes, the effect on benefits is only partial, since not all health-care costs are wage-related.

Table 6 - Present Value of Estimated HI Income Less Expenditures under Various CPI-Increase Assumptions

Ultimate percentage increase in wages - CPI	3.3 - 2.3%	4.3 - 3.3%	5.3 - 4.3%
Income minus expenditures (in billions)	(\$4,748)	(\$4,730)	(\$4,731)

Chart 10 - HI Net Cashflow with Various CPI-Increase Assumptions 2000 - 2030 (in billions)

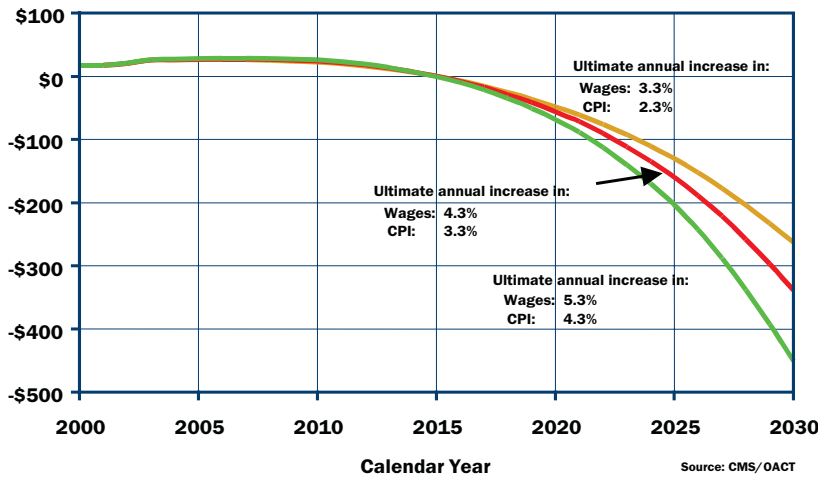
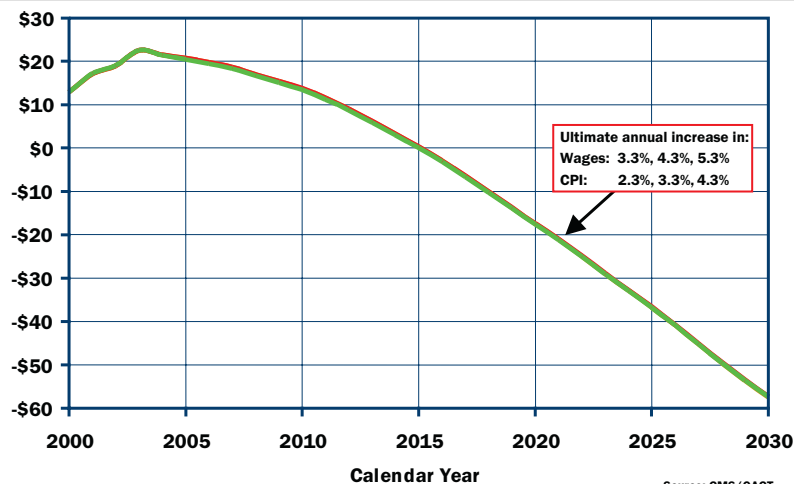


Chart 10A - Present Value of HI Net Cashflow with Various CPI-Increase Assumptions 2000 - 2030 (in billions)



Consumer Price Index

Table 6 shows the net present value of cashflow during the 75-year projection period under three alternative ultimate CPI rate-of-increase assumptions: 2.3, 3.3, and 4.3 percent. In each case, the ultimate real-wage differential is assumed to be 1.0 percent, yielding ultimate percentage increases in average annual wages in covered employment of 3.3, 4.3, and 5.3 percent, respectively.

Table 6 demonstrates that if the ultimate CPI increase assumption is decreased from 3.3 percent to 2.3 percent, the deficit of income over expenditures increases from \$4,730 billion to \$4,748 billion. Furthermore, if the ultimate CPI increase assumption is increased from 3.3 percent to 4.3 percent, the deficit increases to \$4,731 billion.

Charts 10 and 10A show projections of the net cashflow under the three alternative CPI rate-of-increase assumptions presented in Table 6.

As Charts 10 and 10A indicate, this assumption has a large impact on projected HI cashflow in nominal dollars but only a negligible impact when the cashflow is expressed as present values. The relative insensitivity of the projected present values of HI cashflow to different levels of general inflation occurs because inflation tends to affect both income and costs equally. In nominal dollars, however, a given deficit “looks bigger” under high-inflation conditions but is not significantly different when it is expressed as a present value or relative to taxable payroll.

This sensitivity test serves as a useful example of the limitations of nominal-dollar projections over long periods.

In nominal dollars, however, a given deficit “looks bigger” under high-inflation conditions but is not significantly different when it is expressed as a present value or relative to taxable payroll.

Real-Interest Rate

Table 7 shows the net present value of cashflow during the 75-year projection period under three alternative ultimate real-interest assumptions: 2.2, 3.0, and 3.7 percent. In each case, the ultimate annual increase in the CPI is assumed to be 3.3 percent, resulting in ultimate annual yields of 5.5, 6.3, and 7.0 percent, respectively.

Table 7 demonstrates that if the ultimate real-interest rate percentage is decreased from 3.0 percent to 2.2 percent, the deficit of income over expenditures increases from \$4,730 billion to \$7,003 billion. On the other hand, if the ultimate real-interest rate assumption is increased from 3.0 percent to 3.7 percent, the deficit decreases to \$3,372 billion.

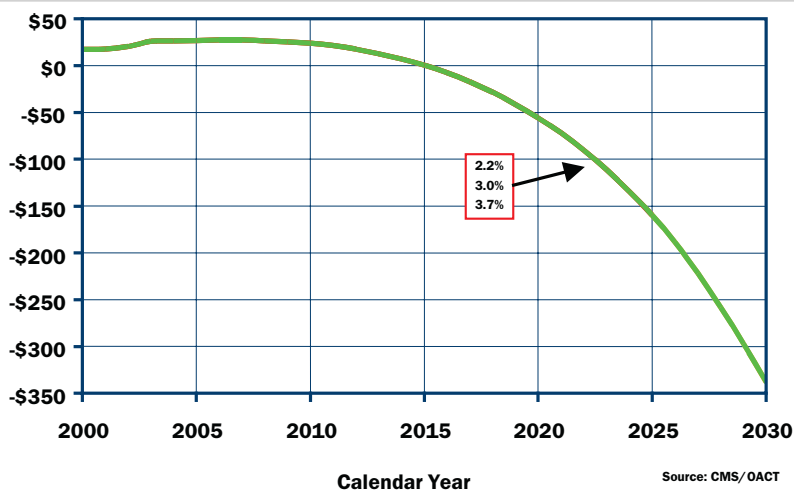
Charts 11 and 11A show projections of the net cashflow under the three alternative real-interest assumptions presented in Table 7.

As shown in Charts 11 and 11A, the present values of the net cashflow are more sensitive to the interest assumption than is the nominal net cashflow. This is not an indication of the actual role that interest plays in the financing of the HI program. In actuality, interest finances very little of the cost of the HI program because, under the intermediate assumptions, the fund is projected to be relatively low and exhausted by 2029. These results illustrate the substantial sensitivity of present value measures to different interest rate assumptions. With higher assumed interest, the very large deficits in the more distant future are discounted more heavily (that is, are given less weight), and the overall net present value is smaller.

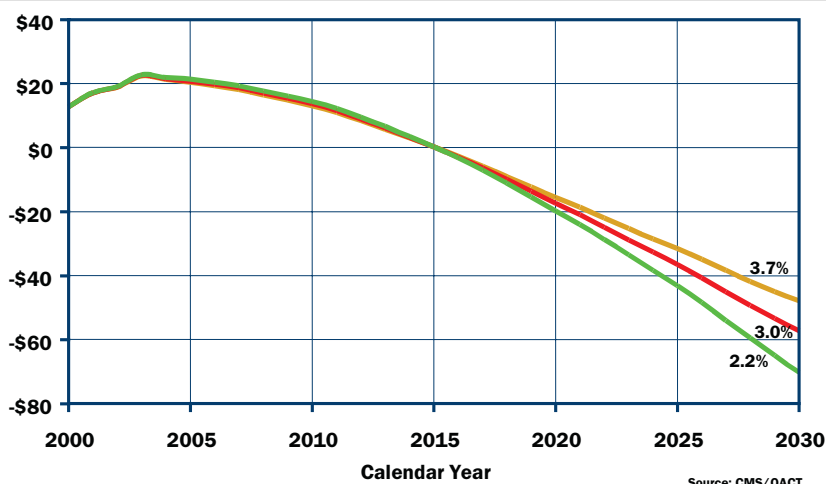
Table 7 - Present Value of Estimated HI Income Less Expenditures under Various Real-Interest Assumptions

Ultimate real-interest rate	2.2%	3.0%	3.7%
Income minus expenditures (in billions)	(\$7,003)	(\$4,730)	(\$3,372)

**Chart 11 - HI Net Cashflow with Various Real-Interest Rate Assumptions
2000 - 2030
(in billions)**



**Chart 11A - Present Value of HI Net Cashflow with Various Real-Interest Rate Assumptions
2000 - 2030
(in billions)**



In actuality, interest finances very little of the cost of the HI program because, under the intermediate assumptions, the fund is projected to be relatively low and exhausted by 2029.

Table 8 - Present Value of Estimated HI Income Less Expenditures under Various Healthcare Cost Growth Rate Assumptions

Annual cost/payroll relative growth rate	-1 percentage point	Intermediate assumptions	+1 percentage point
Income minus expenditures (in billions)	(\$811)	(\$4,730)	(\$11,155)

Chart 12 - HI Net Cashflow with Various Healthcare Cost Factor Assumptions 2000 - 2030 (in billions)

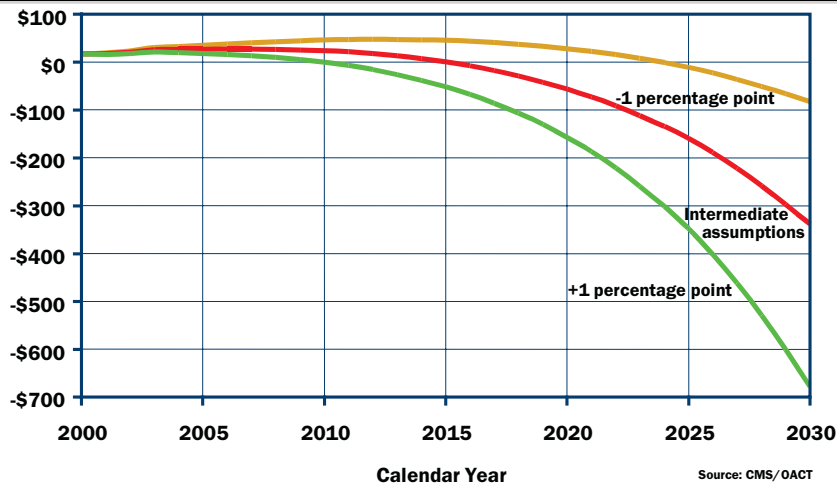
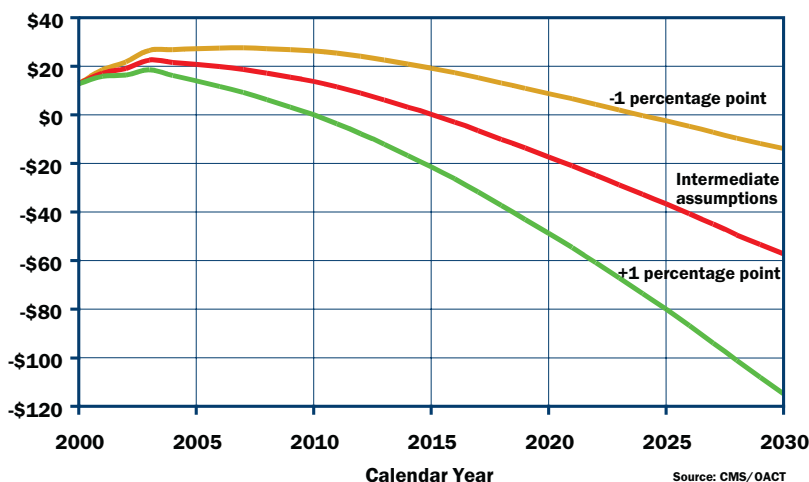


Chart 12A - Present Value of HI Net Cashflow with Various Healthcare Cost Factors 2000 - 2030 (in billions)



Healthcare Cost Factors

Table 8 shows the net present value of cashflow during the 75-year projection period under three alternative assumptions of the annual growth rate in the aggregate cost of providing covered healthcare services to beneficiaries. These assumptions are that the ultimate annual growth rate in such costs, relative to taxable payroll, will be 1 percent slower than the intermediate assumptions, the same as the intermediate assumptions, and 1 percent faster than the intermediate assumptions. In each case, the taxable payroll will be the same as that which was assumed for the intermediate assumptions.

Table 8 demonstrates that if the ultimate growth rate assumption is 1 percentage point lower than the intermediate assumptions, the deficit of income over expenditures decreases from \$4,730 billion to \$811 billion. On the other hand, if the ultimate growth rate assumption is 1 percentage point higher than the intermediate assumptions, the deficit increases substantially to \$11,155 billion.

Charts 12 and 12A show projections of the net cashflow under the three alternative annual growth rate assumptions presented in Table 8.

This assumption has a dramatic impact on projected HI cashflow. The assumptions analyzed thus far have affected HI income and costs simultaneously. However, several factors, such as the utilization of services by beneficiaries or the relative complexity of services provided, can affect

Several factors, such as the utilization of services by beneficiaries or the relative complexity of services provided, can affect costs without affecting tax income.



costs without affecting tax income. As Charts 12 and 12A indicate, the financial status of the HI program is extremely sensitive to the relative growth rates for healthcare service costs versus taxable payroll.

Program Finances and Sustainability

HI

The HI program is substantially out of financial balance in the long range. Under the Medicare Trustees' intermediate assumptions, income is projected to continue to moderately exceed expenditures for the next 20 years but to fall short by steadily increasing amounts in 2021 and later. These shortfalls can be met by redeeming trust fund assets, but only until 2029.

To bring the HI program into actuarial balance over the next 75 years under the intermediate assumptions, either outlays would have to be reduced by 37 percent or income increased by 60 percent (or some

combination of the two) throughout the 75-year period. These substantial changes in income and/or outlays are needed, in part as a result of the impending retirement of the baby boom generation.

The projections shown in this section indicate that without additional legislation, the fund would be exhausted in the future—initially producing payment delays, but very quickly leading to a curtailment of healthcare services to beneficiaries. In their 2001 annual report to Congress, the Medicare Board of Trustees urges the nation's policy makers to address the remaining financial imbalance facing the HI trust fund by taking “effective and decisive action...to build upon the strong steps taken in recent reforms.” They also state that “Consideration of further reforms should occur in the relatively near future.”

SMI

The financing established for the SMI program for calendar year 2001 is estimated to be sufficient to cover program expenditures for

that year and to preserve an adequate contingency reserve in the SMI trust fund. Moreover, for all future years, trust fund income is projected to equal expenditures—but only because beneficiary premiums and government general revenue contributions are set to meet expected costs each year.

The SMI program's automatic financing provisions prevent crises such as those faced in recent years by the HI trust fund, where assets were projected to be exhausted in the near future. As a result, there has been substantially less attention directed toward the financial status of the SMI program than to the HI program—even though SMI expenditures have increased faster than HI expenditures in most years and are expected to continue to do so for a number of years in the future.

SMI program costs have generally grown faster than the GDP, and this trend is expected to continue under present law. The projected increases are initially attributable in part to assumed continuing growth in the volume and intensity of services provided per beneficiary. Starting in 2010, the retirement of the post-World War II baby boom generation will also have a major influence on the growth in program costs. This growth in SMI expenditures relative to GDP is a matter of great concern. In their 2001 annual report to Congress, the Medicare Board of Trustees emphasizes the seriousness of these concerns and urges the nation's policy makers “to consider effective means of controlling SMI costs in the near term.”